

AMENDMENTS TO THE SPECIFICATION

The specification has been amended as follows:

[0008] By the way, the exhaust pressure sensor is required to have a resistance to heat since it has to detect the pressure of high-temperature exhaust gas at a position upstream of the exhaust pressure increasing part. Moreover, the exhaust pressure sensor is in communication with the exhaust channel so as to detect the pressure of the exhaust pressure increasing part, and hence the exhaust pressure sensor is also required to have a resistance to corrosion caused by condensed water in exhaust gas. Particularly, in an engine for which fuel with sulfur with a high concentration is used, the exhaust pressure sensor is likely to be ~~corroded~~corrode due to a high acidity of the condensed water. Therefore, the exhaust pressure sensor disposed in the exhaust system needs to be specially configured to have a resistance to heat and a resistance to corrosion, and is expensive as a result.

[0050] Further, although in the present embodiment, it is determined in step S206 that the exhaust pressure increasing device has failed each time the determination is made in step S205, the present invention is not limited to this, but in

step S206, it may be determined that the exhaust pressure increasing device has failed when the conditions in step S205 have been satisfied a predetermined number of times (for example, N times) in succession, and in step S207, the determination that the pressure increasing device has failed may be canceled when the conditions are unsatisfied—not satisfied a predetermined number of times (for example, M times) in succession.

[0052] Further, intake pressure system information as follows may be used to be compared with the predetermined failure diagnosis reference range; pressures in the waveform section including the maximum value of intake system pressure as shown in FIG. 3 are integrated to obtain the maximum value correlation value of intake system pressure (refer to FIG. 5A), pressures in part of the waveform upper-higher than the pressure (reference value) immediately before the occurrence of exhaust pulsation are integrated to obtain the maximum value correlation value of intake system pressure (refer to FIG. 5B), pressures in the waveform section including the minimum value of intake system pressure are integrated to obtain the minimum value correlation value of intake system pressure (refer to FIG. 5C), or pressures in part of the waveform lower than the pressure (reference value) immediately

before the occurrence of exhaust pulsation are integrated to obtain the minimum value correlation value of intake system pressure (refer to FIG. 5D).

[0055] Specifically, the detection value obtained by the intake pipe pressure sensor 3 immediately before the opening of the intake valve 11, the average value of detection values obtained by the intake pipe pressure sensor 3, the average value of detection values obtained by the intake pipe pressure sensor 3 during one cycle from the present opening to the next opening of the intake valve 11, or the average value of detection values obtained by the intake pipe pressure sensor 3 in a period of time ~~except a~~ except for a predetermined period of time after the opening of the intake valve 11 in step S203 can be used as the reference pressure.

[0073] In step S804, the subject converting section corrects the intake system pressure information  $dP$  according to the amount of overlap VOL, and the process then proceeds to step S805. Specifically, the subject of comparison in the comparing/determining section can be varied according to the amount of overlap, and hence the intake system pressure information  $dP$  to reduce the variation. More specifically, the subject of comparison is converted such that when the amount of overlap VOL is large, the intake system pressure

information dP is corrected to the low voltage side due to a large amount of spit-back to the intake system, and when the amount of overlap VOL is small, the intake system pressure information dP is corrected to the high voltage side due to a small amount of spit-back to the intake system.